

CREDIT OPINION

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New Issue

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Phoenix CIC Water Enterprise, AZ

New Issue – Moody's Assigns Aa2 to Phoenix, AZ's Junior Water Revenue Bonds

Summary Rating Rationale

Moody's Investors Service has assigned a Aa2 rating to the City of Phoenix Civic Improvement Corporation, Arizona's Junior Lien Water System Revenue Refunding Bonds, Series 2016 expected to be issued in the approximate amount of \$381 million.

At this time, Moody's also affirms the Aa2 rating on the system's approximately \$1.2 billion of debt of outstanding parity junior lien bonds, including the current sale. The long-term rating carries a stable outlook.

The Aa2 rating reflects the system's strong liquidity and solid coverage of debt service coverage that is estimated to have improved in fiscal 2016 then approximate historical levels going forward given no plans for future debt. Also, the enterprise benefits from conservative budgeting assumptions and a proactive management team. The rating further considers the system's very large and stable customer base and ample water supply and treatment capacity.

Importantly, while the ongoing drought affecting western states that are reliant on the Colorado River basin has not yet materially weakened the Phoenix Water system's credit profile, future rating reviews will remain focused on the system's ability to manage water availability stress and maintain fiscal stability in the event the drought continues and Colorado River water supply is curtailed. We believe that in the event of a shortage declaration on the Colorado River, that the Phoenix Water system will continue in its ability to meet its customers' demands for many years to come due to a combination of substantial entitlements, Phoenix's high priority rights, availability of alternative water supply and banked water.

Credit Strengths

- » Large and diverse service area
- » Strong fiscal management demonstrated by prudent annual rate increases, conservative projections and maintenance of sound reserve levels
- » Diverse water supply portfolio

Credit Challenges

- » Persistent drought conditions over the long-term could pressure operations

- » Service area historically susceptible to economic volatility
- » Somewhat weak legal covenants including no debt service reserve fund requirement

Rating Outlook

The stable outlook reflects our view that the system's strong and proactive management team will continue to maintain satisfactory debt service coverage and liquidity levels going forward.

Factors that Could Lead to an Upgrade

- » Material and sustained improvement of debt service coverage by net revenues
- » Significantly larger and sustained unrestricted reserves
- » Stronger additional bonds test or other stronger limitations on leveraging pledged revenues

Factors that Could Lead to a Downgrade

- » A trend of deteriorating debt service coverage by net revenues
- » Trend of declining system liquidity
- » Ongoing drought reduces access to cost-effective water

Key Indicators

Exhibit 1

| Phoenix CIC Water | | | | | |
|--|-----------|-----------|-----------|-----------|-----------|
| System Characteristics | | | | | |
| Asset Condition (Net Fixed Assets / Annual Depreciation) | 22 years | | | | |
| System Size - O&M (in \$000s) | 159,506 | | | | |
| Service Area Wealth: MFI % of US median | 82.5% | | | | |
| Legal Provisions | | | | | |
| Rate Covenant (x) | 1.10 | | | | |
| Debt Service Reserve Requirement | No DSRF | | | | |
| Financial Strength | | | | | |
| | 2011 | 2012 | 2013 | 2014 | 2015 |
| Operating Revenue (\$000) | 354,311 | 391,654 | 425,938 | 400,509 | 371,590 |
| O&M (\$000) | 168,487 | 163,043 | 164,137 | 165,993 | 159,506 |
| Long-Term Debt (\$000) | 1,322,885 | 1,279,075 | 1,226,675 | 1,171,745 | 1,238,715 |
| Annual Debt Service Coverage (x) | 1.66 | 2.34 | 2.41 | 2.08 | 1.99 |
| Cash on Hand | 60 days | 155 days | 271 days | 548 days | 494 days |
| Debt to Operating Revenues (x) | 3.7x | 3.3x | 2.9x | 2.9x | 3.3x |

Source: Moody's Investors Service

Recent Developments

Recent Developments incorporated in the Detailed Rating Considerations

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moody's.com for the most updated credit rating action information and rating history.

Detailed Rating Considerations

Service Area and System Characteristics: Large Service Area and Ample Water Supplies

The water utility provides retail water service to a population of about 1.53 million with a service area that includes accounts primarily within the City of Phoenix, supplying an average of 261 million gallons per day (mgd) to more than 418,995 accounts. Phoenix is the sixth largest city in the nation and serves as the major economic center for the state. Nearly all water system accounts are single-family residential (88%), followed by non-residential (8%) and multi-family accounts (4%). Single-family residential accounts comprised 50% of FY 2015 water sales, followed by non-residential (34%) and multi-family (16%) water sales. Treatment capacity is more than ample with five surface water treatment plants capable of providing up to 625 mgd of capacity which far exceeds both average daily water demand of 261 mgd and peak demand of 381 in 2015; peak demand in 2010 was 438 mgd. Despite a pattern of strong in-migration into the area, water demand has declined very slightly due to a combination of an increased use of water efficient technologies and desert adapted vegetation, development of smaller residential lot sizes, water pricing measures, and customer awareness.

The city's water demand is met primarily with surface water from two major sources in roughly equal shares: the Salt River and Verde River which are delivered through the Salt River Project (SRP) (57% of water deliveries in 2015) and Colorado River water (42%) is delivered through the Central Arizona Project (CAP) Hayden-Rhodes aqueduct. Combined, the city has rights to an allocation from these two sources alone of 542,616 acre feet of water a year which is firmly above the nearly 284,409 acre feet of average annual demand (2016). Importantly, the city has access to a substantial amount of stored water supplies deliverable through the SRP system which could provide an additional 157,558 acre feet of water annually. The water system also includes 500 million gallons of storage capacity for treated water in ground reservoirs and elevated tanks. Finally groundwater, reclaimed water and banked, unused Colorado River water stored through the Arizona Water Banking Authority provide further supply diversity.

We view this diverse supply portfolio as very important to the current rating, especially given that the Colorado River is also in drought. In the event the severity and duration of the drought persist along the Colorado River, the state's junior entitlement status could trigger reduced allocations which would then impact Phoenix's 186,557 acre-feet of CAP water. However, in the event allocations to the state were reduced, other lower priority users would likely be impacted first and the city's use of excess water for recharge would also be curtailed, resulting in minimal impact to city accounts. As mentioned above, Moody's believes that in the event of a shortage declaration on the Colorado that the city will continue in its ability to meet its customers' demands for many years to come due to a combination of substantial entitlements, Phoenix's high priority rights, alternative supply and banked water.

Despite the current regional drought, which is approaching 17 years in length (2000 - 2016), we expect the City of Phoenix will maintain access to an ample, diverse supply of water over the near- to medium-term. Of note, in its nearly 100 year history, the city has never had to declare a drought emergency due to a combination of ample supply (both stored and delivered) and successful demand management. We expect the city will continue to take appropriate measures to manage water supply and customer demand going forward.

Debt Service Coverage and Liquidity: Sound Coverage and Liquidity

Moody's views management's debt service coverage projections exceeding two times net revenues for the junior lien as reasonable. Coverage has remained healthy for this large system, declining over the last two audited fiscal years to a still strong 1.99 times in fiscal 2015. Coverage declined most recently due to a decline in revenues as result of consumption levels slightly below forecast given wetter and cooler weather. Unaudited fiscal 2016 results indicate coverage increased to a near historic high of 2.4 times as revenues increased slightly and annual debt service was lower. Moody's notes that coverage levels are consistent with similarly-rated water utilities serving major metropolitan areas. Going forward, junior lien debt service coverage for the current fiscal year (2017) is budgeted to increase again to 2.6 times, then remain at a stable 2.3 times through 2021. Projected coverage levels are in line with the city's informal target of achieving 2.0 times coverage of junior lien debt service throughout the forecast period. Key projection assumptions annual rate increases of 2%, although future rate increases beyond March 2017 have not been approved by council at this point.

Importantly, the system has historically maintained a solid cash position and projections indicate this trend will continue. Going forward, projections indicate that the system will exceed its internal target of maintaining a fund balance of at least 1.0 times annual debt service.

The system's solid financial operations and satisfactory working capital levels noted above help mitigate a weak legal structure that includes a 1.1 times rate covenant and additional bonds test, and no requirement for a debt service reserve fund.

After consistent annual rate increases from 1992-2012, management implemented no rate increases through 2015 in part due to a significantly scaled back capital program as new account growth slowed but also due to solid financial metrics that positioned the utility well going into the next forecast period. Notably, while the rate increases supported growth in operating revenues, annual increases in O&M were subdued by comparison and were generally flat from 2010-2015 and reflective of inflationary costs and slowed system growth. Further, despite the long history of rate increases, an average single-family monthly water bill remains comparatively low for the region and the nation.

The system's capital improvement plan (CIP) totals approximately \$943 million for fiscal years 2016-2021, which is slightly higher than recent CIP programs but is markedly lower than five-year plans observed back when the local economy was expanding at a much more rapid pace. The current CIP focuses on distribution (58%) and production (36%) related projects. A substantial 74% of CIP funding is expected to be provided from pay-as-you-go cash contributions with about 18% being provided by a commercial paper program. Moody's notes the commercial paper program does introduce some rollover risk given the uncertainty of the regional and national economy in later years.

LIQUIDITY

The city's fiscal 2015 days cash on hand is a strong 494 days, not including cash set aside for capital projects. On a non-GAAP basis, the city estimates that the system's available cash equaled a healthy 359 days cash on hand in fiscal 2016 (unaudited), which does not include cash set aside for one-time purposes. This solid liquidity position provides for sound flexibility to mitigate any unanticipated operating and capital costs while also allowing ample cushion to provide for pay-go financing for the system's five-year CIP.

Debt and Legal Covenants

The system's legal provisions are relatively weak, but somewhat mitigated by a stable operating history and internal coverage and reserve targets that surpass the legal requirements. The current issue is secured on a junior lien basis by net system revenues due under the city purchase agreement. The system has covenanted to charge and collect rates for services rendered by the water utility in order that the sum of pledged net revenues will provide at least 1.10 times coverage of maximum annual debt service (MADS) on all outstanding revenue obligations. Similarly, the additional bonds test is also 1.10 times MADS on all revenue obligations. The lack of a debt service reserve fund is a credit weakness although the system's rate structure and support of general obligation debt service does provide for some flexibility.

DEBT STRUCTURE

The fiscal 2015 debt to operating ratio of 3.3 times is above average, although not out of line relative to systems that have experienced rapid account growth in recent history. In addition, as the city has scaled back its capital program and plans for pay-go capital financial going forward this metric will moderate gradually. All utility debt will be repaid within 28 years, consistent with the useful life of the financed assets. The system has no senior lien debt outstanding and all of the system's debt is fixed rate obligations.

DEBT-RELATED DERIVATIVES

The enterprise is not exposed to derivatives.

PENSIONS AND OPEB

The enterprise's employees belong to the single-employer City of Phoenix Employees' Retirement System (COPERS). We view the system's pension liability as manageable. As of fiscal 2015, the system's contribution was approximately 10.4% of the annual COPERS contribution, or \$12.1 million and equal to 3.7% of the system's operating revenues. We also note that the system's balance sheet leverage has improved slightly over the last several years, largely due to the above average payout of long-term debt and despite growth in the enterprise's share of the COPERS pension liability. The enterprise's outstanding junior lien debt (\$1.2 billion) plus the Moody's Adjusted Net Pension Liability (\$399.6 million) is considered above average but manageable at 4.6 times FY 2015 operating revenues. Moody's ANPL reflects certain adjustments we make to improve comparability of reported pension liabilities. The adjustments are not intended to replace the district's reported liability information but to improve comparability with other rated entities.

Management and Governance

We view the management team as deep and experienced and due to the size and scope of the system's operations, its management team also actively participates in state and regional water resource planning. Management also demonstrates reasonable and conservative multi-year projections and budgets.

Water rates are governed by the City Council and can be adjusted at any time during the year but generally are approved for March 1 implementation. After three consecutive years of no rate increases, council approved two rate increases for 2016 (3%) and 2017 (2%). Legal provisions are bolstered by the formal adoption of various, conservative debt and financial operating policies by the council.

Legal Security

The current offering is secured on a junior lien basis by net system revenues due under the city purchase agreement.

Use of Proceeds

The bonds will be used to refund certain maturities of previously issued bonds for annual debt service savings.

Obligor Profile

The system provides water services for the City of Phoenix within an area of 540 square miles. The City, with a 2015 estimated population of 1.5 million, is the largest city in the State of Arizona and the sixth most populous city in the US.

Methodology

The principal methodology used in this rating was US Municipal Utility Revenue Debt published in December 2014. Please see the Rating Methodologies page on www.moodys.com for a copy of this methodology.

Ratings

Exhibit 2

Phoenix (City of) AZ Water Enterprise

| Issue | Rating |
|---|--------------------------------|
| Junior Lien Water System Revenue Refunding Bonds, Series 2016 | Aa2 |
| Rating Type | Underlying LT |
| Sale Amount | \$381,215,000 |
| Expected Sale Date | 12/06/2016 |
| Rating Description | Revenue: Government Enterprise |

Source: Moody's Investors Service

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